Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KEVIN W. ANDRESEN
and KOK S. CHEN

Appeal No. 1999-2040
Application No. 08/475,023

ON BRIEF[1]

Before JERRY SMITH, BARRY, and LEVY, Administrative Patent Judges.
LEVY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-5, 7-13, 15, 16, 18, 19, and 21.

BACKGROUND

Appellants' invention relates to conversion of output device color values to minimize image quality artifacts. An

[1] The Oral Hearing scheduled for August 16, 2001 was waived in a communication received, via facsimile, on June 26, 2001 (Paper No. 20).

understanding of the invention can be derived from a reading of exemplary claims 1 and 10, which are reproduced as follows:

1. A method for minimizing color-induced artifacts in images that are represented in an N-component color space, comprising the steps of:

detecting whether a nominal color for one or more objects in an image is comprised of plural components, wherein at least one of said components has a parameter that exceeds a predetermined value;

determining a modified value for said parameter of the one component, which is a function of the value for said parameter for M components which comprise said nominal color, where 1<M<N, to produce an adjusted color; and

generating an image in accordance with the adjusted color.

10. A method for minimizing color-induced artifacts in images, comprising the steps of:

determining whether an object in an image is one of a predetermined category of objects;

producing an adjusted color value for an object which is one of said predetermined category of objects by modifying parameter values for color components which are greater than a predetermined limit value; and

generating an image in accordance with said adjusted color value.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Oshikoshi et al. (Oshikoshi)	5,042,078	Aug. 20, 1991
Spaulding et al. (Spaulding)	5,539,540 (effectively filed Feb. 12, 1993)	Jul. 23, 1996

Applicants' admitted prior art (page 2).

Claims 1, 7, 9, and 18 stand rejected under 35 U.S.C. § 102(e) as anticipated by Spaulding.

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Spaulding in view of the admitted prior art.

Claims 3-5, 10, 15, 16, 19, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Spaulding in view of Oshikoshi.

Claims 8 and 11-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Spaulding in view of the admitted prior art and Oshikoshi.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 14, mailed August 6, 1998 for the examiner's complete reasoning in support of the rejections, and to appellants' brief (Paper No. 13, filed June 1, 1998) and reply brief (Paper No. 16, filed October 6, 1998) for appellants' arguments thereagainst. Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered. See 37 CFR 1.192(a).

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the rejections advanced by the examiner, and the evidence of anticipation and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer. Upon consideration of the record before us, we affirm-in-part.

We begin with the rejection of claims 1, 7, 9, and 18 under 35 U.S.C. § 102(e) as anticipated by Spaulding. To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently. In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). As stated in In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) (quoting Hansgirg v. Kemmer, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)) (internal citations omitted):

> Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would

> result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

Thus, a prior art reference may anticipate when the claim limitation or limitations not expressly found in that reference are nonetheless inherent in it. See In re Oelrich, 666 F.2d at 581, 212 USPQ at 326; Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 630, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates. See In re King, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986).

Appellants assert (brief, page 6) that "[r]ather than being concerned with the elimination of artifacts that result from combinations of colors, such as blooming, the Spaulding et al patent is directed to the mapping of colors from one color gamut into those of a different gamut." With regard to claim 1, appellants assert (id.) that Spaulding does not meet the recited step of detecting whether a nominal color for one or more objects in an image is comprised of plural components, because the color matching of Spaulding technique of Spaulding is not concerned with whether a given color is comprised of a single component or multiple components. Appellants further assert (brief, pages 7 and 8) that the equation 1<M<N is not met because in Spaulding

M=N. Appellants argue that in Figure 8 of Spaulding, the color value for each color is a function of all of the components of the input color space. With respect to claim 7, appellants assert (id., page 8) that Spaulding does not disclose modification of saturation values because an objective of the patent is to preserve saturation levels (col. 7, lines 15 and 16) and because when mapping to output color space, the patent teaches that the hue angles for the input color values are shifted, rather than the saturation levels (col. 8, lines 33-35). With respect to claim 18, appellants assert (brief, page 11) that Spaulding does not disclose modification of saturation values.

With respect to claim 9, appellants assert (id., pages 10 and 11) that claim 9 does not merely recite the concept of having limit values and threshold values, but rather recites the step of producing adjusted color values for nominal colors having a parameter value that is greater than the limit value by reducing the values for said given parameter to values that lie within a range from said limit value to said threshold value. We make reference to the examiner's answer for the examiner's position.

We begin with claim 1. Spaulding is directed to color calibration and color enhancement of digital imaging systems, and in particular to transforming one device-dependent color space to

another device-dependent color space. (col. 1, lines 20-24). Input color values in an input color space are transformed to output color values in an output color space (col. 3, lines 12-14). Spaulding provides 18 adjustable parameters which can be used to individually adjust the hue, saturation, and lightness of the 6 primary colors (R, G, B, C, Y, M)(col. 4, lines 18-20). Color reproduction characteristics can be adjusted in a custom manner while maintaining the desired tonal reproduction on the neutral axis (col. 4, lines 15-17). To preserve continuity of colors in the color space, lower saturation colors are adjusted to maintain smooth color gradations (col. 9, lines 29-32).

From our review of Spaulding, we agree with appellants (brief, page 7) that Spaulding does not meet the recited step of detecting whether a nominal color for one or more objects in an image is comprised of plural components. The examiner (answer, page 4) relies upon col. 6, lines 28-60 of Spaulding for a teaching of this limitation. We find that the portion of Spaulding relied upon by the examiner refers to figures 7 and 8. Figure 7 discloses transformation of color values from an input device such as a CRT which uses R, G, B components, to an output device such as a thermal printer which uses C, Y, M components. In the color transformation shown in figure 8, each of the

outputs is a function of each of the inputs. Transformations are implemented using multi-dimensional look-up tables. The color transformations are done in such a way as to provide the flexibility to adjust the color reproduction for different regions of color space independently. Although we find transformation of input color values using look-up tables, we find no teaching or suggestion of specifically determining whether a nominal input color is comprised of plural components. We are not persuaded by the examiner's assertion (answer, page 14) that the "emphasis" of appellants' application is to determine whether at least one of the components has a parameter that exceeds a predetermined value. Each limitation in the claim must be met for the reference to anticipate the claim. Nor are we persuaded by the examiner's assertion (id.) that in step 106, the process of extraction inherently detects whether a nominal color comprises plural components. The extraction of color values of an input color simply provides a color value for transformation. A color value is extracted for all input colors. We find no inherent determination of whether an input color has plural components, and agree with appellants (reply brief, page 3) that "the color matching technique of the Spaulding patent is not concerned with whether a given color is comprised of a single

component or plural components. Such a determination is irrelevant in the context of the Spaulding system, which is only concerned with mapping from an input color value to an output color value. In this mapping process, it does not matter whether the input and/or output color values comprise a single component or multiple components." Although we agree with the examiner, for the reasons set forth on pages 14 and 15 of the answer, that the equation 1<M<N is met by Spaulding, from all of the above, we find that the examiner has failed to establish a prima facie case of anticipation of claim 1.

We turn next to independent claim 9. Spaulding discloses (col. 7, line 53 through col. 8, line 3) that the transformation sequence includes the steps of forming a transform for the input color values that are neutral, forming a transform for transforming a plurality of highly saturated input color values to the desired output values, and forming a transform of the remaining colors using as boundary values the transform values that are neutral, and the transform for the highly saturated input color values. Spaulding further discloses in figure 17 a grid of lightness and saturation values at some specific hue angle corresponding to one of the primary colors (col. 9, lines 32-34). The term "primary colors" (col. 7, lines 4-7, see also

col. 3, lines 1-3) refers to single-color, and two-color combinations of the fundamental colors (R, G, B, C, M, Y). The actual color of the primary corresponds to the most saturated point on the gamut boundary (col. 9, lines 36-38). In order to transform the most saturated input colors to the most saturated output colors, saturation compression is used (col. 9, lines 41-44). As shown in figure 18, uniform compression of the saturation and a lightness shear are used to accomplish the desired color transformation (col. 10, lines 4-6). The amount of saturation compression or expansion will be different for each primary color (col. 10, lines 11-14). The ability to adjust each primary color individually allows for the alteration of one region without affecting other regions (col. 12, lines 48-51). As shown in figures 19-22, colorimetric reproduction is only maintained for colors on the neutral axis (col. 13, lines 2-4). "The hue, saturation and lightness of colors which are quite close to the neutral axis are still changed proportionally due to the linear taper of the color shifts" (col. 13, lines 4-7). Figure 25 shows an input color space 10 divided into three subsets. Spaulding further discloses (col. 14, lines 12- 18) that:

> Referring to FIG. 25, an RGB input color space 10 is divided into three subsets. Subset 12 is the

> collection of the most saturated color values. Subset 16 is a collection of relatively unsaturated color values of the type commonly found in photographic scenes. A color enhancement strategy is assigned to subset 12 which performs a mapping of input colors to saturated colors in the output color space. A strategy for mapping input colors to output colors colorimetrically is applied to subset 16. The remaining colors forming subset 14 are mapped in a manner preserving continuity between the subsets 12 and 16.

From these teachings of Spaulding, we find that the claimed limit value is met by the boundary between subsets 16 and 14, and that the claimed threshold value is met bythe boundary between subset 14 and subset 12. We additionally find that adjusted color values are obtained for the remaining colors found in subset 14, in a manner preserving the continuity between subsets 12 and 16, and that Spaulding discloses producing adjusted color values for nominal colors that have parameter values that lie in a range from the limit value to the threshold value. We further find that the color values beyond the threshold value, in subset 12, having the most saturated colors, are reduced using uniform compression. Moreover, we find that the color values of subset 16, which have a parameter value below the limit value are maintained. However, claim 9 requires more. Claim 9 additionally requires that color values <u>beyond the threshold value</u> are reduced "to values that lie within a range from said

limit value to said threshold value." In Spaulding, even though the color values of subset 12 with the most saturated colors can have uniform saturation compression, we find no clear teaching in Spaulding that the saturation compression adjusts a color value in subset 12 to the extent that the color value is reduced to the extent of lying in the range between the limit value and the threshold value, as claimed. The examiner's assertion (answer, page 16) that "[i]nput colors in the region 12 is [sic] transformed with a color enhancement strategy" does not address the specific language of the limitation in question. In sum, the evidence of record does not clearly support a finding that a nominal color having a parameter beyond the threshold value is reduced to a value that lies within the range from the limit value to the threshold value. We therefore find that the examiner has failed to establish a prima facie case of anticipation of claim 9. Accordingly, the rejection of claims 1 and 9, and claims 7 and 18, dependent therefrom, under 35 U.S.C. § 102(e) is reversed.

We turn next to the rejection of claim 2 under 35 U.S.C. § 103(a). In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837

F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole. See id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745

F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The examiner's position (answer, page 6) is that although figures 17 and 18 of Spaulding "teach a transformation which preserves a hue value, Spaulding does not explicitly show a step to make the ratios of the components of the adjusted color and the nominal color the same." To overcome this deficiency of Spaulding, the examiner turns to the admitted prior art (page 2) for a teaching of the step of making "the ratio of the components in the adjusted color to be the same ratio of color components in a nominal color" because preserving hue values would improve reproduction quality.

We observe that claim 2 depends from claim 1. We reverse the rejection of claim 2 under 35 U.S.C. § 103(a) because the admitted prior art does not make up for the deficiencies of Spaulding.

We turn next to the rejection of claims 3-5, 10, 15, 16, 19, and 21 under 35 U.S.C. § 103(a). As evidence of obviousness, the examiner offers Spaulding and Oshikoshi. With respect to claims 3-5, 15, and 16 the examiner's position (answer, page 6) is that "Spaulding does not explicitly show the step of determining a limit parameter value to separate two regions." The examiner

additionally asserts (answer, pages 7 and 8, see also pages 11 and 12) that "[i]t is also desirable to transform different types of images differently to optimize fidelity. It would have been obvious . . . to use Oshikoshi's step of identifying an image type in Spaulding's method of transforming input colors to output colors to optimize image quality, because each part of the images can be corrected with the most suitable process as pointed out by Oshikoshi in column 2, line[s] 21-24." With respect to claims 10, 19, and 21 the examiner's position (answer, pages 10-12) is that Spaulding does not explicitly show the step of modifying colors for different objects in a predetermined category. The examiner asserts (id., page 7, see also page 11) that "[i]t would have been obvious to . . . apply Oshikoshi's method of determining a limit parameter to set the limit value for each region transformed with Spaulding's method, because different part[s] of an image can be corrected with the most suitable limit value to optimize the smoothness of saturation transition and therefore provide a good image quality."

Appellants assert (brief, page 12) that Oshikoshi is directed to color correction that takes place within the context of a single color space, and that the color correction process of Oshikoshi, i.e., the shifting of color values to achieve color

balance, has nothing to do with the color transformation process of Spaulding. Appellants further argue (id.) that if the teachings of Spaulding and Oshikoshi were combined, the logical combination would be to first carry out the color correction image in a given color space, and then carry out the color matching process of Spaulding, i.e., that the procedures of the two patents would be carried out sequentially, rather than integrated together. With respect to claim 3, appellants assert (brief, page 13) that "there is no teaching in either patent individually, or in their combination, of the steps of determining a limit value for a parameter, modifying values of that parameter for colors whose components have a value greater than that limit, and maintaining the values of that parameter for colors whose components have a value less than the limit to be the same as the parameter values for the nominal color." With respect to claims 4, 5, 10, 15, 16 and 19, appellants (brief, page 13) present a general argument referring to their earlier argument that the only logical combination of Spaulding and Oshikoshi would be to sequentially apply their teaching. Appellants add (id., pages 13 and 14) that Oshikoshi does not disclose the specific claimed concepts of determining whether objects of an image are of a particular type, such as text

characters and lines and selective modification of saturation colors if the objects are of the predetermined type. Appellants present no specific arguments with respect to claim 21. Claim 21 therefore stands or falls with claim 10 from which it depends.

We turn first to independent claim 10. The limitation at issue is "determining whether an object in an image is one of a predetermined category of objects." In Spaulding, each input color value can be considered an object. However, Spaulding does not have categories of objects. Oshikoshi is directed to effecting gradation and color correction of a composite image for printing, for example, identification cards (col. 1, lines 5-7, and col. 3, lines 22-25). The composite image to be printed includes an individual human color image and a computer graphic color (CG) image such as a pattern or company identification mark, along with printed characters (col. 1, lines 20-25). Color correction is effected to provide a vivid color print. CG images, although displayed clearly on a color monitor, are generally faded when printed, making it desirable to correct CG images so that the printed color is similar to that of the CG image displayed on the color monitor (col. 2, lines 27-35). However, color correction is not desirable for CG images having a high chrome because of saturation of the output of the color

correction matrix calculation (col. 2, lines 35-43). As shown in figure 1, a human subject image is taken by a color TV camera. A/D converter 14 converts the R, G, B signals to digital form (col. 3, lines 25-40). CG images are inputted from diskette 17 (col. 3, lines 43-45). Color correction circuit 21 performs color correction of human subject images, CG images, and character images using a color correction matrix (col. 4, lines 3-6). As shown in figure 3, table data 50a representing pure color R,G,B CG images are not corrected in gradation, and human subject image table data 51a is non-linear. As shown in figure 7, compound color CG images have a bent-line table (col. 5, lines 52-62). Characters such as names are entered through the keyboard and are subjected to the same image processing as CG images (col. 8, lines 7-11). The gradation-corrected image signals are transmitted to color-correction circuit 21 (col. 7, lines 41 and 42). Figure 8 displays a printed identification card having the composite image. In addition, Oshikoshi discloses that the human subject image and the CG image can be composed "at one of before and after" correction of gradation (col. 9, lines 44-48).

We note that appellants do not provide any specific reasons to support their conclusionary statement (brief, page 13) that

Oshikoshi does not disclose determining whether an object in an image is one of a category of objects. From the disclosure of Oshkoshi that the composing of the human subject and CG image signals can take place before correction of gradation, which is performed by color correction circuit 21, we find that Oshkoshi discloses "determining whether an object in an image is one of a predetermined category of objects." In order to correct gradation after the composing of the images, Oshkoshi would inherently have to determine whether an object in an image fits into the category of a human subject image or a CG image. The issue thus becomes whether it would have been obvious to combine the teachings of Spaulding and Oshikoshi as advanced by the examiner to provide Spaulding with this feature. We agree with the examiner that Spaulding and Oshkoshi are analogous art for the reasons set forth in the answer, and add that both Spaulding and Oshkoshi are directed to the solving the problem of color correction of images, at least some of which look worse as printed than how the same image appears on a color monitor. However, because of the different approaches taken by Spaulding and Oshikoshi i.e., in Spaulding input color values are broken into subsets according to their saturation levels, and Oshkoshi separates different types of images (human subject and CG) into

separate categories and provides different types of color correction according to the category, we find no suggestion of combining the teachings of Spaulding and Oshikoshi as advanced by the examiner, except from appellants' disclosure.

However, we find that Oshkoshi alone meets claim 10. As discussed supra, Oshikoshi discloses determining whether an object in an image is one of a predetermined category of objects. In addition, objects that fall within the CG category but are directed to primary colors have little or no gradation correction, as shown as table data 50a in figure 3. For CG images representing composite colors that do not have high chroma, gradation correction is provided, as shown as table data 50b in figure 7. The composite colors have a predetermined limit value greater than the primary colors by the number of colors present. The image is generated in accordance with the adjusted color value (figure 8). Thus, we find that the body of the claim is met, and the issue becomes whether the language of the preamble should be treated as a limitation. We find that the language in the preamble "for minimizing color-induced artifacts in images" states an intended use of the device and does not recite any essential steps. We additionally find that the body of the claim defines a complete invention and that the language

of the preamble does not provide antecedent basis for any limitation in the body of the claim. In addition, although appellants argue that Spaulding does not disclose minimizing artifacts, no argument has been presented that Oshikoshi does not minimize artifacts; See Catalina marketing International, Inc. v. Coolsavings.com., Inc., 01-1324 (Fed. Cir. 2002). Accordingly, we find that the preamble does not constitute a limitation of the claim.

Thus, we find that claim 10 is met by Oshikoshi, and we consider Spaulding to be superfluous. While this is, in effect, a holding that claim 10 is anticipated by Oshikoshi under 35 U.S.C. § 102(b), affirmance of the 35 U.S.C. § 103 rejection is appropriate, since it is well settled that a disclosure that anticipates under 35 U.S.C. § 102 also renders the claim unpatentable under 35 U.S.C. § 103, for "anticipation is the epitome of obviousness." Jones v. Hardy, 727 F.2d 1524, 1529, 220 USPQ 1021, 1025 (Fed. Cir. 1984). See also In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982); In re Pearson, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974). We therefore affirm the rejection of independent claim 10, and claim 21 which falls with claim 10, under 35 U.S.C. § 103(a).

With respect to claim 19 which depends from claim 10, Oshikoshi discloses (col. 8, lines 7-11) inputting of characters "such as names, dates, and the like" via the keyboard and that the inputted characters are subjected to the same image processing as CG images. We additionally find that hyphens, slash lines, parenthesis, underlining, etc. that can be inputted by the keyboard, teach or suggest the claimed "lines." Accordingly, the rejection of claim 19 under 35 U.S.C. § 103(a) is affirmed.

With respect to claims 3-5, 15, and 16 we observe that these claims depend from claims 1 and 9. We reverse the rejection of claims 3-5, 15, and 16 because Oshikoshi does not make up for the deficiencies of Spaulding.

We turn next to the rejection of claims 8 and 11-13 under 35 U.S.C. § 103(a). As evidence of obviousness, the examiner offers Spaulding, the admitted prior art, and Oshikoshi.

We turn first to independent claim 8. The examiner's position (answer, page 8) is that Spaulding does not explicitly show a show making the "ratios of the components of the adjusted color and the nominal color the same." To overcome the deficiency in Spaulding, the examiner relies upon the admitted prior art of page 2 for a teaching of this limitation.

Appellants acknowledge (brief, page 9) that it is well known in the prior art to preserve hue values, but assert that it would not have been obvious to so modify Spaulding because Spaulding teaches the opposite, i.e., the saturation should remain constant, and the hue values should be adjusted to perform color matching. Appellants note (id.) that equations 3-5 of Spaulding illustrate the manner in which the output hue angle differs from the input hue angle.

We refer to our findings, supra, with respect to the teachings of Spaulding and Oshkoshi. The limitation "modifying saturation values for all colors components of the nominal color in a proportional value . . ." is not met by Spaulding because the color values in subset 16 input colors are mapped to output colors colorimetrically (col.14, lines 14-16). We agree with the examiner that Spaulding teaches that hue values may be maintained (figures 17 and 18). However, we find that even though it may be known in the prior art to proportionally modify all color components to reduce saturation while preserving hue, we find no suggestion, and no convincing line of reasoning has been advanced by the examiner, that would have suggested modifying Spaulding in such a manner because Spaulding specifically teaches modifying subset 16 differently from subset 12; see col. 14, lines 8-19).

In addition, as per our findings, supra, Oshikoshi does not make up for the deficiencies of Spaulding. In sum, we find that the examiner has failed to establish a prima facie case of obviousness of independent claim 8. Accordingly, the rejection of claim 8, and claims 11-13, dependent therefrom, under 35 U.S.C. § 103(a) is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 7, 9, and 18 under 35 U.S.C. § 102(e) is reversed. The examiner's decision to reject claims 2-5, 8, 11-13, 15, and 16, under 35 U.S.C. § 103(a) is reversed. The examiner's decision to reject claims 10, 19, and 21 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136 (a).

AFFIRMED-IN-PART

JERRY SMITH Administrative Patent Judge	)
LANCE LEONARD BARRY Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
STUART S. LEVY Administrative Patent Judge	)

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